

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A process to load a drug into a cross-linked polymer, comprising the following steps:

- a. pre-treating said cross-linked polymer with ~~[[a]]~~ substantially pure supercritical fluid;
- b. contacting said pre-treated cross-linked polymer with ~~[[a]]~~ supercritical fluid containing ~~[[the]]~~ a drug dissolved therein;
- c. removing the supercritical fluid, thereby causing the drug to precipitate inside the cross-linked polymer.

2. (Currently amended) Process according to claim 1, wherein in step ~~[[a. ,]]~~ a., the cross-linked polymer is maintained in contact with the supercritical fluid for a time ~~comprised~~ between 1 minute and 6 hours.

3. (Currently amended) Process according to claim 1, wherein in step ~~[[a. ,]]~~ a., the cross-linked polymer is maintained in contact with the supercritical fluid for a time ~~comprised~~ between 5 minutes and 4 hours.

4. (Currently amended) Process according to claim 1, wherein in step ~~[[b. ,]]~~ b., the pre-treated cross-linked polymer is maintained in contact with the supercritical fluid for a time ~~comprised~~ between 2 minutes and 48 hours.

5. (Currently amended) Process according to claim 1, wherein in step ~~[[b. ,]]~~ b., the pre-treated cross-linked polymer is maintained in contact with the supercritical fluid for a time ~~comprised~~ between 10 minutes and 12 hours.

6. (Previously presented) Process according to claim 1, wherein the contact of the cross-linked polymer with the supercritical fluid is effected in static and/or dynamic conditions.

7. (Previously presented) Process according to claim 1, wherein said supercritical fluid is chosen among carbon dioxide, ethylene, propylene, chlorofluorocarbon, nitrous oxide, and mixtures thereof.

8. (Previously presented) Process according to claim 1, wherein said cross-linked polymer is chosen among cross-linked polyvinylpyrrolidone, cross-linked cellulose derivatives, starch and its derivatives, cyclodextrins and their derivatives, cross-linked polystyrene, cross-linked acrylic polymers, and mixtures thereof.

9. (Currently amended) Process according to claim 1, wherein the thus loaded drug is present in the cross-linked polymer in [[high]] increased amorphous and nanocrystalline fraction compared to the original drug that is dissolved in the supercritical fluid.

10. (Currently amended) A method to increase the drug-loading capacity of a cross-linked polymer, comprising treating said cross-linked polymer with a supercritical fluid not containing any drugs, wherein the cross-linked polymer is selected from the group consisting of cross-linked cellulose derivatives, starch and its derivatives, and cyclodextrins and their derivatives.

11. (Currently amended) Method according to claim 10, wherein the cross-linked polymer is maintained in contact with the supercritical fluid for a time ~~comprised~~ between 1 minute and 6 hours.

12. (Currently amended) Method according to claim 11, wherein the cross-linked polymer is maintained in contact with the supercritical fluid for a time ~~comprised~~ between 5 minutes and 4 hours.

13. (Previously presented) Method according to claim 10, wherein the contact of the polymer with the supercritical fluid is effected in static and/or dynamic conditions.

14. (Previously presented) Method according to claim 10, wherein the supercritical fluid is chosen among carbon dioxide, ethylene, propylene, chlorofluorocarbon, nitrous oxide, and mixtures thereof.

15. (Canceled)

16. (Withdrawn - currently amended) Modified cross-linked polymer, having enhanced drug-loading properties, obtainable from a cross-linked polymer selected from the group consisting of cross-linked polyvinylpyrrolidone, cross-linked cellulose derivatives, starch and its derivatives, cyclodextrins and their derivatives, cross-linked polystyrene and mixtures thereof by treating the ~~[[sole]]~~ cross-linked polymer with a supercritical fluid not containing any drug.

17. (Withdrawn - currently amended) Modified cross-linked polymer according to claim 16, obtainable by treating the ~~[[sole]]~~ cross-linked polymer with the supercritical fluid for a time ~~comprised~~ between 1 minute and 6 hours.

18. (Withdrawn - currently amended) Modified cross-linked polymer according to claim 17, obtainable by treating the ~~[[sole]]~~ cross-linked polymer with the supercritical fluid for a time ~~comprised~~ between 5 minutes and 4 hours.

19. (Withdrawn) Modified cross-linked polymer according to claim 16, wherein the supercritical fluid is chosen among carbon dioxide, ethylene, propylene, chlorofluorocarbon, nitrous oxide, and mixtures thereof.

20. (Withdrawn) Modified cross-linked polymer according to claim 16, loaded with a drug.

21. (Withdrawn) Pharmaceutical composition containing a modified cross-linked polymer according to claim 20.